What is claimed is:

1. A surface-coated cemented carbide alloy cutting tool comprising a hard coating layer and a cemented carbide alloy substrate, the hard coating layer comprising:

a Ti compound layer, as a lower layer, formed by vapor deposition having an average thickness of 0.5 to 20 μm and comprising at least one layer chosen from among a layer of a carbide of Ti, a layer of a nitride of Ti, a layer of a carbonitride of Ti, a layer of a carboxide of Ti, and a layer of a carbonitroxide of Ti;

an aluminum oxide layer, as an intermediate layer, having an average thickness of 1 to 25 μm and having a heat transformed α-type crystal structure derived from a vapor deposited κ- or θ-type aluminum oxide layer; and

an aluminum oxide layer, as an upper layer, formed by vapor deposition having an average thickness of 0.3 to 10 μm and having an α-type crystal structure.

2. A surface-coated cemented carbide alloy cutting tool according to claim 1, wherein the hard coating layer further comprising at least one layer of titanium nitride, titanium carbide or titanium carbonitride as a surface layer formed as the uppermost layer and which has an average thickness of 0.1 to 5 μm.

3. A surface-coated cemented carbide alloy cutting tool according to claim 2, further comprising a Ti oxide layer, which has an average thickness of 0.2 to 5 μm and satisfies the formula: TiO_x (provided that an atomic ratio x of O to Ti is within a range from 1.2 to 1.9) as measured by an Auger electron spectroscoopy at the center portion in the thickness direction, provided between an upper layer and the surface layer.

4. A surface-coated cemented carbide alloy cutting tool according to any one of claims 1 to 3, wherein a ratio of a peak intensity of (006) plane, I(006), to a peak intensity of (113) plane, I(113), is 0.1 or more in an X-ray diffraction profile of the α-type aluminum oxide layer of the hard coating layer.

5. A surface-coated cemented carbide alloy cutting tool according to claim 4, wherein a ratio of a peak intensity of (006) plane, I(006), to a peak intensity of (012) plane, I(012), is 0.1 or more in an X-ray diffraction profile of the α-type aluminum oxide layer of the hard coating layer.

6. A surface-coated cemented carbide alloy cutting tool according to claim 1, wherein the aluminum oxide layer has a heat transformed α-type crystal structure and has cracks therein formed during heat transformation.

7. A surface-coated cemented carbide alloy cutting tool according to claim 1, wherein the aluminum oxide layer has a heat transformed α-type crystal structure and has cracks therein formed during heat transformation which are uniformly dispersed.